

***National Type Evaluation Program***  
***Certificate of Conformance***  
***for Weighing and Measuring Devices***

**For:**

Vehicle/Railway Track Scale  
Mechanical Lever Systems  
Models: RS, RSL, RSA and RSAL\*  
 $e_{\min}$ : 20 lb or 50 lb;  $n_{\max}$ : 10 000 (See Below)  
Platform: (See Below): Section Cap./CLC: (See Below)  
Capacity: 75 tons to 300 tons (See Below)

Accuracy Class: III/III L

**Submitted by:**

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**Standard Features and Options**

*Model Number	Gross Railway Max. Cap. (tons)	Railway Scale $n_{\max}$	Gross Vehicle Cap. (tons)	Cooper Rating	Platform Size (ft)	Section Cap./ CLC (tons)
6050-RS_	150 x 0.025	6000	100 x 0.01	E50	60 x 10	75/75
6060-RS_	200 x 0.025	8000	100 x 0.01	E60	60 x 10	100/100
6070-RS_	200 x 0.025	8000	100 x 0.01	E70	60 x 10	100/100
6650-RS_	200 x 0.025	8000	100 x 0.01	E50	66 x 10	100/100
6660-RS_	200 x 0.025	8000	100 x 0.01	E60	66 x 10	100/100
7250-RS_	200 x 0.025	8000	100 x 0.01	E50	72 x 10	100/100
6080-RS_	250 x 0.025	10 000	100 x 0.01	E80	60 x 10	125/125
6670-RS_	250 x 0.025	10 000	100 x 0.01	E70	66 x 10	125/125
7260-RS_	250 x 0.025	10 000	100 x 0.01	E60	72 x 10	125/125
7270-RS_	250 x 0.025	10 000	100 x 0.01	E70	72 x 10	125/125
6680-RS_	300 x 0.05	6000	100 x 0.01	E80	66 x 10	150/150
7280-RS_	300 x 0.05	6000	100 x 0.01	E80	72 x 10	150/150

Combination vehicle/railway track scale installations must satisfy the relationship of: Nominal capacity  $\leq$  CLC (N - 0.5) where N is the number of sections.

Load cell capacity for electromechanical scales: 5000 lb

$v_{\min} \leq d/(\sqrt{N} \times \text{the lever multiple})$  where N = number of load cells.

\* See Page 2 for Scale descriptions and Suffic designations

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: December 15, 1997

Gilbert M. Ugiansky, Ph.D.  
Chief, Office of Weights and Measures  
Issue Date: March 25, 1998

**Note:** The National Institute of Standards and Technology does not "approve," "recommend," or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or the Institute. (See NTEP Policy and Procedures.)

**Cardinal Scale Mfg. Co.**  
**Vehicle/Railway Track Scale**  
**Models: RS, RSL, RSA and RSAL**

**Application:** For weighing both railway cars and motor vehicles as static, single draft loads.

**Identification:** The identification information is located on the transverse lever.

**Scale Description:** The weighing element is a mechanical lever system with hardened and ground pivots and bearings. The connection between the levers and the load receiving element is a double-link suspension system.

The load receiving element is a fabricated steel weighbridge articulated at each section. Rails are attached directly to the weighbridge main girders and a concrete or steel deck is added to accommodate motor vehicles.

The indicating element can be a mechanical weighbeam or mechanical dial of an approved and compatible type. The indicating element is attached to the weighing element by means of a steelyard and draft-rod assembly.

A load cell can be added to the steelyard or draft-rod assembly to provide both a mechanical and an electronic indicating element. In this case, the type is still "RS" or "RSA" and both the load cell and electronic indicating element must be of an approved and compatible type.

The mechanical indicating element can be eliminated and a shear beam load cell added to the end of the transverse lever. This changes the type of "RSAL" or "RSL". An approved and compatible electronic indicating element must then be used.

Combination vehicle/railway track scales must be marked with both the CLC and section capacity. The CLC and its related formula is applicable to the vehicle scale capacity which may be different than the railway scale capacity. When these capacities are different each capacity must be marked on the device. The section capacity must be marked for the railway scale.

These are accuracy Class III L scales but can be made to meet Class III when required.

**Suffix Designations and Descriptions:** The Suffix "RSA" indicates a railway scale with the "A" indicating built to AREA (American Railway Engineering Association) specifications per the scale Handbook of the AAR (Association of American Railway).

The "RS" only suffix indicates an industrial model.

The Suffix "L" indicates an electromechanical scale. The type "RSL" and "RSAL" have a shear beam load cell, Model SB-XXXXS Series CC No. 87-059A1, on the end of the transverse lever.

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 88-015PN and is issued without additional testing to upgrade the Certificate from a status of provisional to full. NTEP policy permits a pre-NTEP Certificate of Conformance to be upgraded from provisional to full provided no unfavorable comments are received during the comment period. Since no unfavorable comments were received on this device, this Certificate is issued as a full NTEP Certificate of Conformance. CLCs were added based on NTEP policy which permits declaring a CLC up to 100% of the section capacity without additional testing. The test conditions for Certificate of Conformance Number 88-015PN are listed below for reference.

**Certificate of Conformance Number 88-015PN:** These scales have received type approval by individual states prior to the establishment of the National Type Evaluation Program. These scales have been in commercial use for many years. Since these devices use mechanical lever systems, they are believed to be unaffected by the influence factors specified under T.N.8. of the Scales Code of NBS Handbook 44. The NTEP policy and procedures permit NTEP to issue Certificates of Conformance based upon the approvals granted by pre-NTEP jurisdictions. This Certificate was issued on this basis without formal NTEP testing.

**Pre-NTEP Type Approvals:** CA 1974; NJ 1983

**Information Reviewed By:** H. Oppermann, T. Gaver (NIST) 88-015PN; L. Sebring (NIST) 88-015